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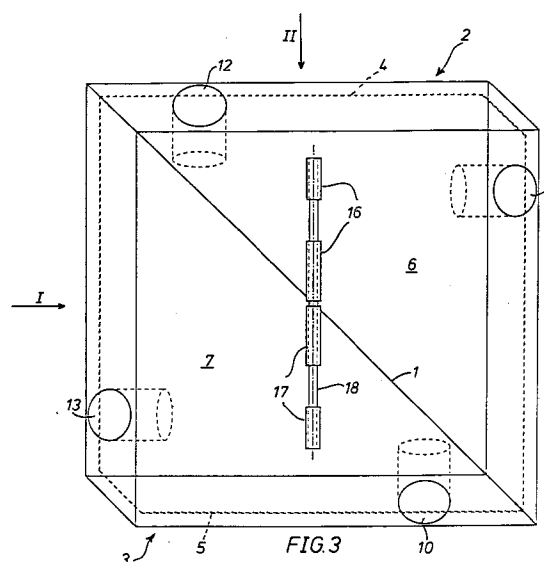
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NL-5600 AP Eindhoven(NL)(54) **Waste container and hoisting means for the same.**

(57) The invention relates to a waste container provided with a bottom, upright walls and an upper wall. The waste container is built up of two parts (6,7), which in the closed position of the container abut each other along an upright separating plane (1). The two parts (6,7) are pivotable with respect to each other, about an at least substantially horizontal pivot pin (18) located near the upper side of the container, which includes an angle with the separating plane, between the closed position and an open position, in which the two parts of the container have been pivoted about the pivot pin in a direction remote from each other.

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The invention relates to a waste container provided with a bottom, upright walls and an upper wall, whereby said waste container is built up of two parts, which in the closed position of the container, abut each other along an upright separating plane, whilst said two parts are pivotable with respect to each other about an at least substantially horizontal pivot pin located near the upper side of the container, between the closed position and an open position, in which the two parts of the container have been pivoted about the pivot pin in a direction remote from each other.

Such waste containers are e.g. used for collecting glass, used paper or the like.

With a known container of the above kind, such as e.g. known from EP-A-0143197 and DE-A-3607780, the pivot pin about which the two parts of the container are pivotable with respect to each other is located in the separating plane, in which the open sides of the two parts of the container abut each other in the closed position of the container. A drawback of this known waste container is that unauthorized persons can easily open the container, if it is normally placed on the ground, by pulling the two parts of the container in a direction remote from each other near the bottom side of the container. It is an object of the invention to obtain a waste container of the above mentioned kind wherein in a simple way said drawback of the known container can be overcome.

According to the invention the construction of the waste container is such that the pivot pin includes an angle with the separating plane.

The construction according to the invention makes it practically impossible for the container to be opened by unauthorized persons. The fact is that when the container is opened, by pivoting the two parts of the container about the pivot pin, in a direction remote from each other, parts of the bottom side of the container move downwards with respect to the position they occupy in the closed position of the container. If a container is placed on the ground, therefore, and an attempt were to be made to open the container by pivoting the parts of the container with respect to each other, it will be necessary thereby to move the container upwards as well, which, in view of the weight of the container, will be very difficult.

Furthermore also the weight of the materials present in the two parts of the container will act to keep the container in its closed position, so that, also when the container is being hoisted up, no special measures will generally be required to keep the container in its closed position during said hoisting.

The invention will be explained in more detail hereafter with reference to a few possible embodiments of the construction according to the inven-

tion illustrated in the accompanying Figures.

Figure 1 is a side view of a waste container according to the invention, seen according to the arrow I in Figure 3.

Figure 2 is a side view of the waste container shown in Figure 1, seen according to the arrow II in Figures 1 and 3.

Figure 3 is a plan view of the waste container shown in Figures 1 and 2.

Figure 4 is a smaller-scale view, corresponding with Figure 2, of the waste container coupled to a hoisting device, whilst the dotted lines also illustrate the open position of the waste container.

Figure 5 is a side view of Figure 4.

Figures 6 - 8 are diagrammatic plan views of alternative embodiments of waste containers according to the invention.

The waste container shown in Figures 1 - 5, which has an at least substantially square section in the illustrated embodiment, is divided into two substantially equal parts 2 and 3 by a separating plane 1, which is normal to the plane of the drawing in fig. 3 and which extends through two diagonally opposed corners of the waste container. The two parts 2 and 3 have at least substantially horizontal triangular bottom plates 4 and 5 respectively, substantially triangular upper walls 6 and 7 respectively, which extend parallel to said bottom plates, and upright side walls 8 and 9 respectively, which extend between said bottom plates and said upper walls.

Near the upper side of the container four openings 10 - 13 have been provided in the usual manner, through which openings waste can be introduced into the container. In the illustrated embodiment circular openings are provided, which are adjoined by short pieces of tube, in view of the fact that the illustrated container is intended for use as a so-called "bottle tank". Of course it is also possible within the spirit and scope of the invention to use the container for other waste materials as well, whereby the intake openings in question are possible adapted.

Sleeves 16 and 17 respectively are attached to the upper walls 6 and 7 of the two parts 2 and 3 of the waste container by means of upright connecting plates 14 and 15 respectively, which extend upwards from the upper walls 6 and 7 in question. Said sleeves 17 accommodate a horizontally extending pin 18. As will be apparent in particular from Figure 3, said pin 18 includes an angle with the longitudinal centre plane 1, which divides the waste container into two parts.

As is diagrammatically shown in Figure 4, the waste container can be pivoted, from the closed position illustrated in full lines in Figures 2 - 4, in which the open sides of the two parts 2 and 3 of the waste container abut against each other, into an

open position by pivoting the two parts 2 and 3 of the waste container with respect to each other about the pivot pin 18, from the position illustrated in full lines in Figure 4 into the position illustrated in dotted lines.

For hoisting up and opening the waste container use may be made of a hoisting beam 20 suspended from a crane jib 19 only diagrammatically shown in Figures 4 and 5, which hoisting beam 20 can be coupled to the pivot pin 18 by means of two hooks 21 fixed to the hoisting beam 20. Furthermore two pressure arms 22 and 23, extending in opposite directions from the hoisting beam 20, are attached to the ends of said hoisting beam, said pressure arms being pivotable with respect to the hoisting beam 20 by adjusting means, e.g. hydraulic setting cylinders or the like (not shown).

The hoisting beam 20 is coupled to the pivot pin 18 in such a manner that the free end of the pressure arm 22 will come to lie on the upper wall 7 of the part 3 of the container near the intake opening 10, when seen in Figure 3, whilst the free end of the pressure arm 23 will come to lie on the upper wall 6 of the part 2 of the waste container, near the intake opening 12. It will be apparent that in that situation the two parts 2 and 3 of the container will be pivoted about the pivot pin 18, from the closed position of the container into the open position of the container, by pivoting the arms 22 and 23 from the position illustrated in full lines in Figure 4 into the position illustrated in dotted lines in Figure 4.

At the same time it will be apparent from Figure 3 that in general the position with respect to the pivot pin 18 of the centre of gravity of a load present in a part 2 or a part 3 of the container will be such that the weight of the material present in the container will oppose the opening of the container.

Of course the invention is not limited to the embodiment described above and shown in Figures 1 - 5. As is e.g. shown in Figure 6 it is also possible with a waste container having an at least substantially square or rectangular section that the separating plane 1 extends parallel to two side walls of the container, whilst in that case the axis of rotation 18 e.g. lies in a plane extending through diagonally opposed corner points of the container.

As is illustrated in Figure 7, however, also another arrangement of the separating plane 1 and the pivot pin 18 is conceivable. It is not necessary thereby that the separating plane and the pivot pin include an angle of 45° with respect to each other, also other angles are conceivable.

As will furthermore be apparent from Figure 8, the container must not necessarily have a square or rectangular section, also other shapes are con-

ceivable within the scope of the invention, e.g. a circular section.

Claims

1. A waste container provided with a bottom, upright walls and an upper wall, whereby said waste container is built up of two parts, which in the closed position of the container abut each other along an upright separating plane, whilst said two parts are pivotable with respect to each other, about an at least substantially horizontal pivot pin located near the upper side of the container, between the closed position and an open position, in which the two parts of the container have been pivoted about the pivot pin in a direction remote from each other, characterized in that said pivot pin includes an angle with said separating plane.
2. A waste container according to claim 1, characterized in that said pivot pin and said separating plane include an angle of $\pm 45^\circ$ with each other.
3. A waste container according either one of the preceding claims 1 and 2, characterized in that said pivot pin is located near the upper side of the container.
4. A hoisting device intended for hoisting a container according to any one of the preceding claims, characterized in that said hoisting device is provided with a hoisting means having two pivotable arms, which hoisting means is to be coupled to the container in such a manner that the free end of each of the arms will come to lie on the upper side of either one of the two parts of the waste container in the coupled position of the hoisting device.

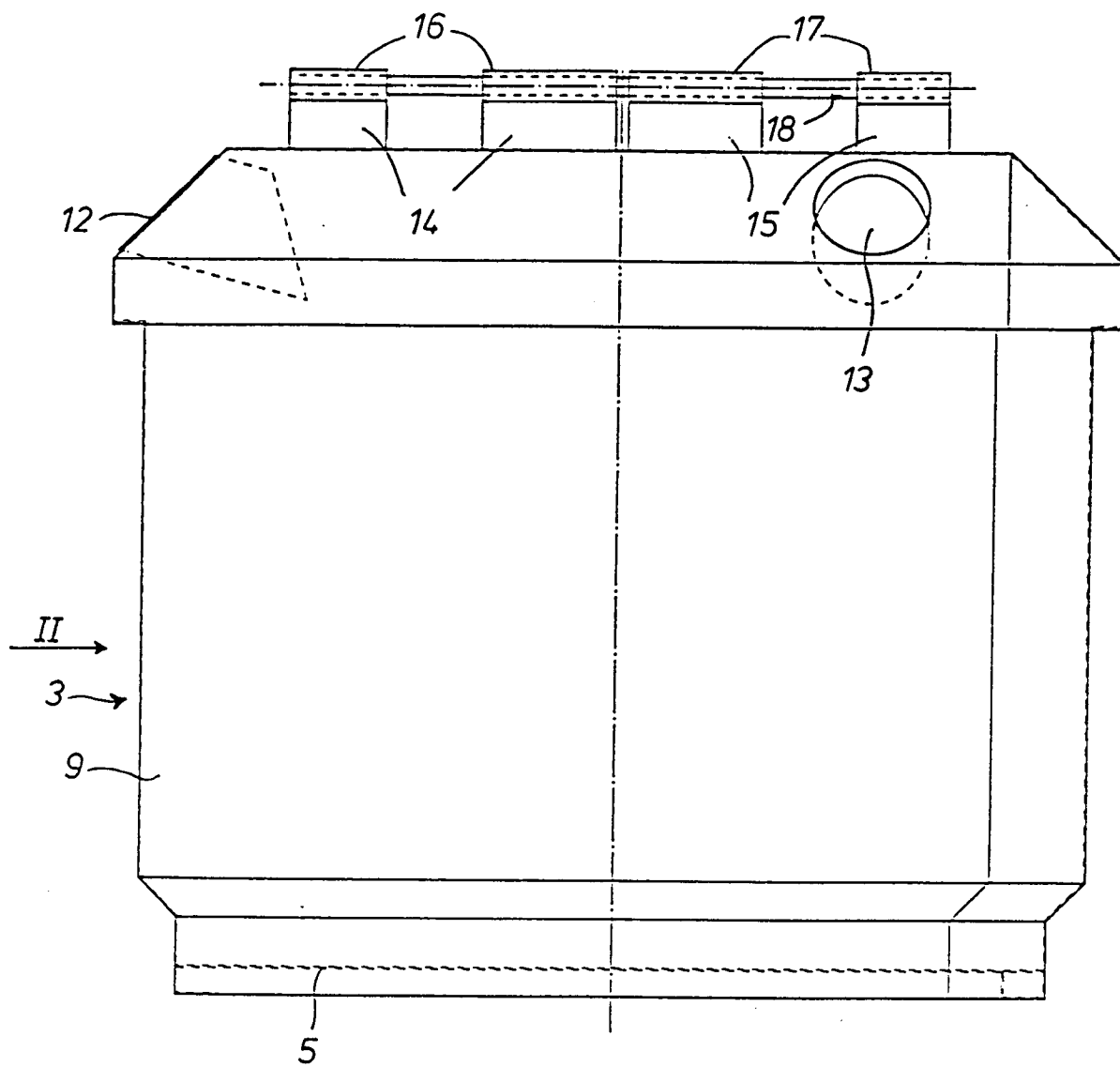


FIG.1

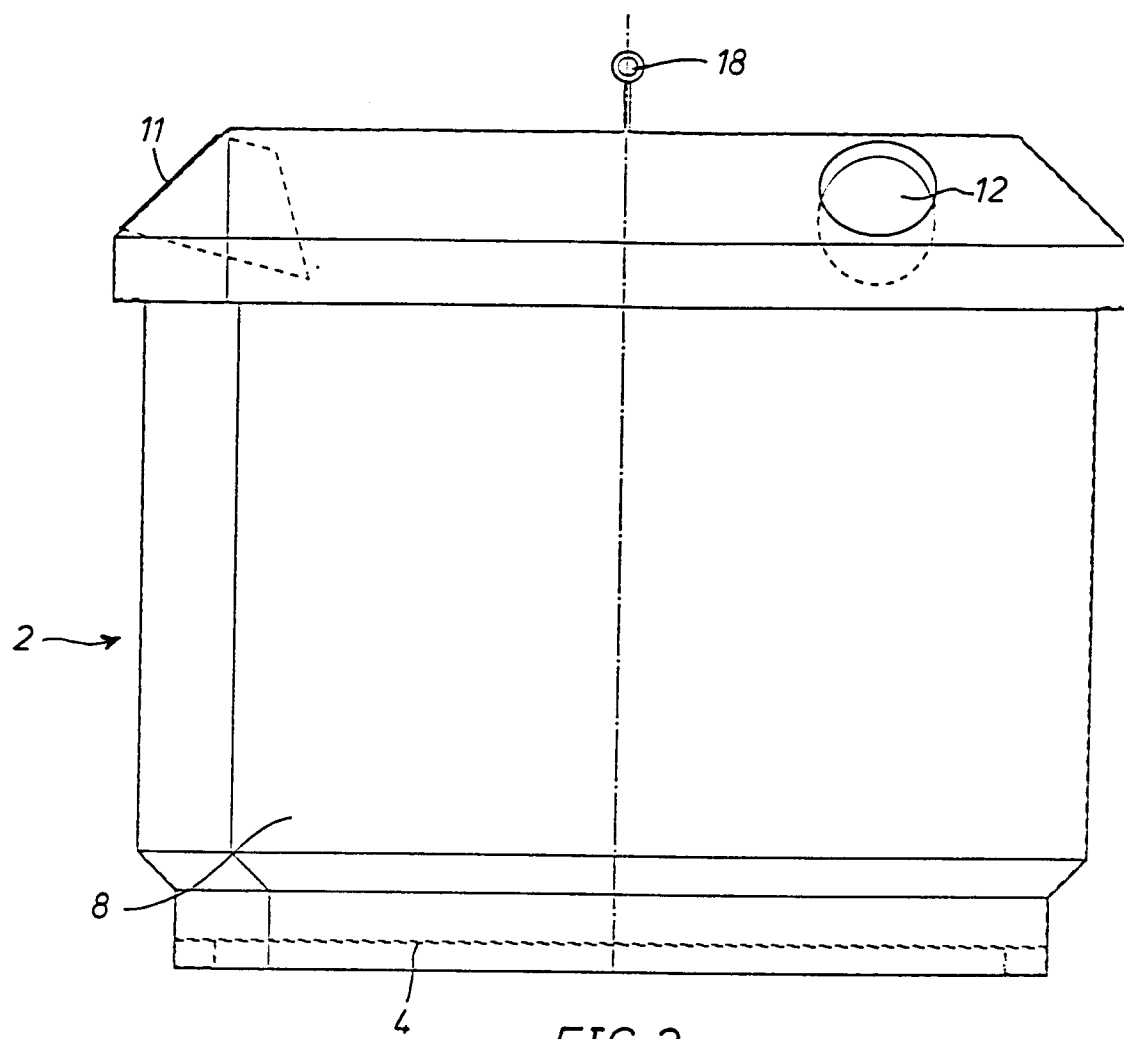


FIG. 2

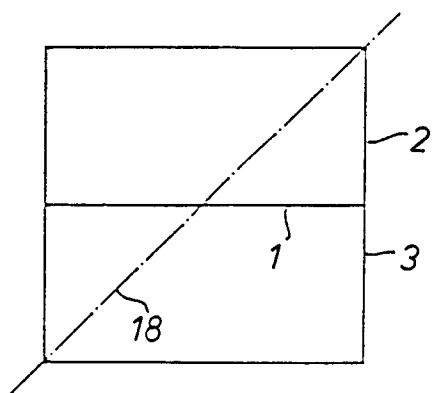


FIG. 6

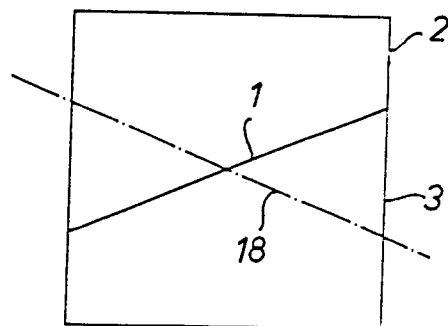
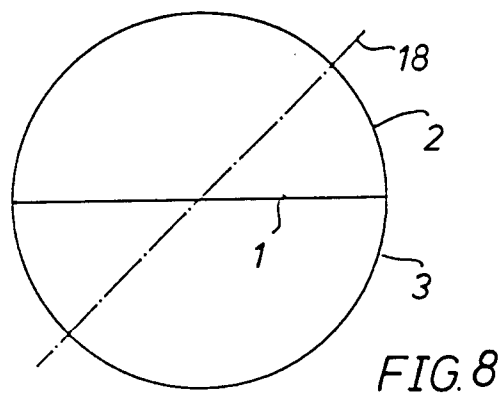
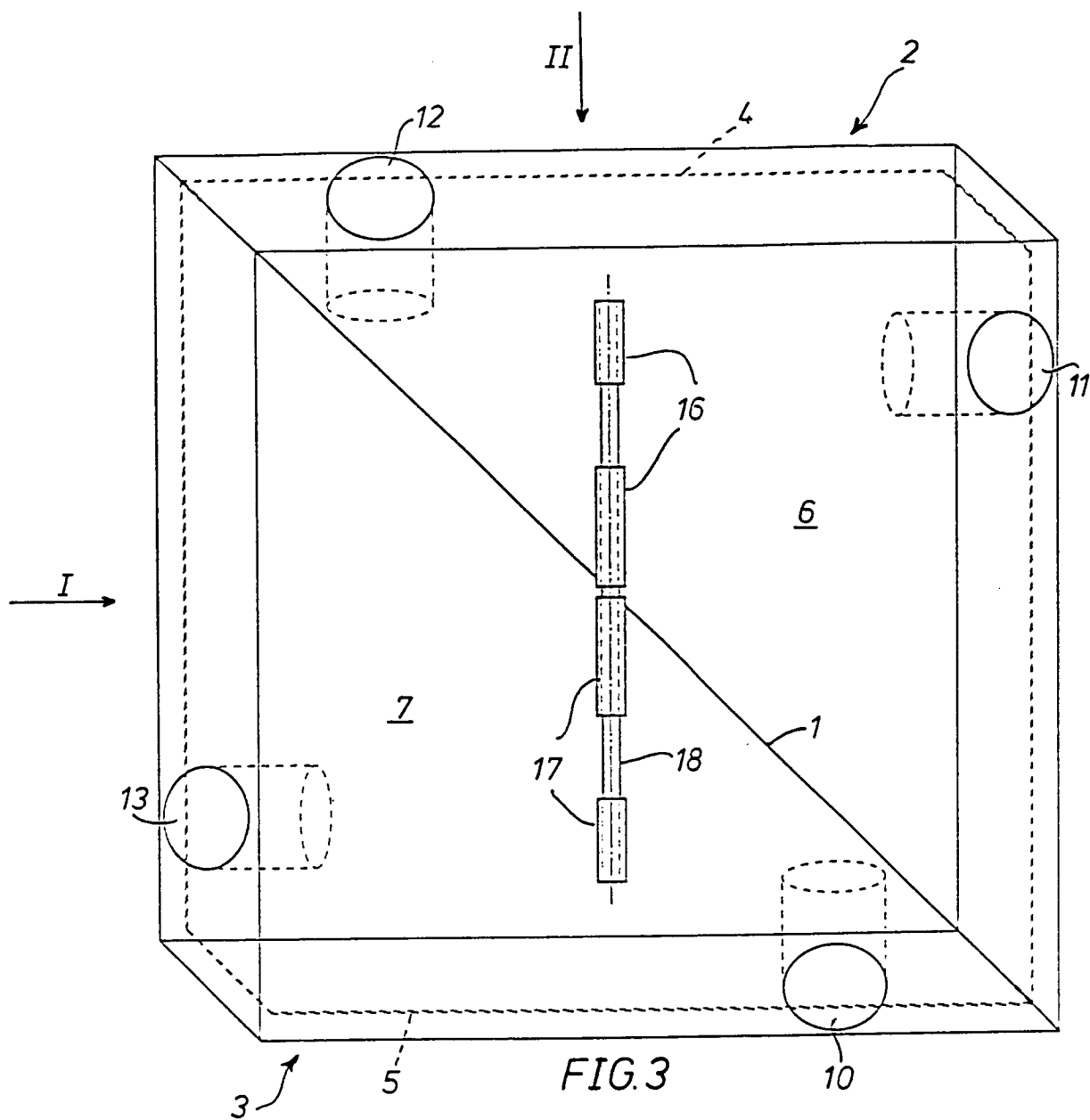
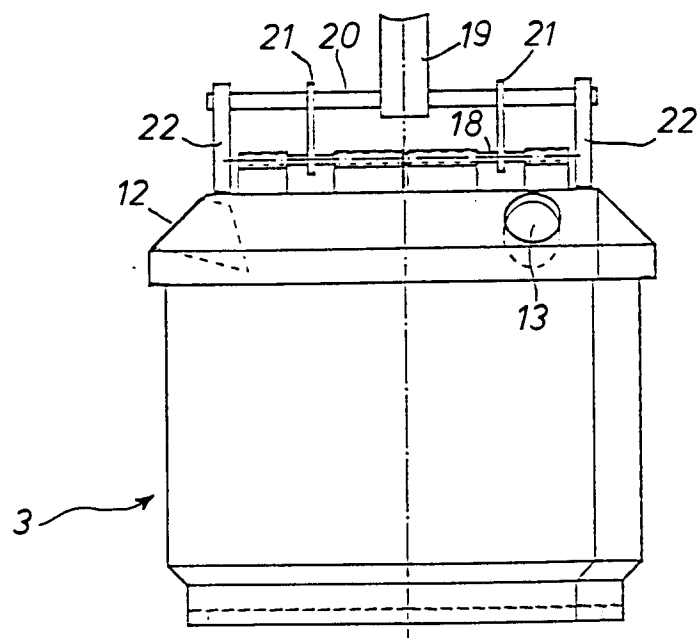
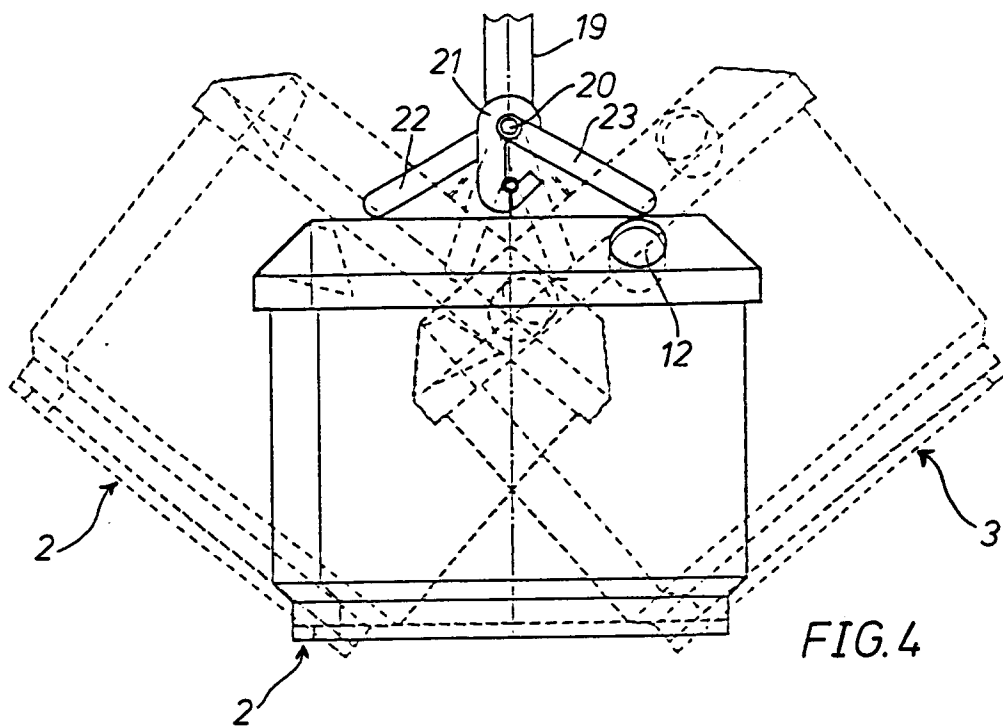


FIG. 7







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EUROPEAN SEARCH REPORT

Application Number

EP 92 20 0103

DOCUMENTS CONSIDERED TO BE RELEVANT

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
D,A	EP-A-0 143 197 (GRUMBACH) * page 6, line 19 - line 31; figure 1 * ---	1,4	B65F1/12
D,A	DE-A-3 607 780 (GANZ & GRIMM) -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B65F B65D
The present search report has been drawn up for all claims			
Place of search THE HAGUE	Date of completion of the search 12 MAY 1992		Examiner DEUTSCH J.P.M.
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